RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: _10/586,932_
Source: _1FWP_
Date Processed by STIC: _8/7/06_

ENTERED

CRF Errors Edited by the STIC Systems Branch

Serial Number: _10/586,932_   CRF Edit Date: _8/7/06_
                                       Edited by: _JL_

_____ Realigned nucleic acid/amino acid numbers/text in cases where the sequence text "wrapped" to the next line

_____ Corrected the SEQ ID NO. Sequence numbers edited were:

_____

_____ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:

_____

_✓_ Deleted: _✓_ invalid beginning/end-of-file text ; ___ page numbers

_____ Inserted mandatory headings/numeric identifiers, specifically:

_____

_____ Moved responses to same line as heading/numeric identifier, specifically:

_____

_____ Other:

_____
_____
_____

IFWP

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/586,932

DATE: 08/07/2006
TIME: 17:03:46

Input Set : A:\01-SQ Listing-21 Jul 2006.txt
Output Set: N:\CRF4\08072006\J586932.raw

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   3 <110> APPLICANT: Martinussen, Jan
   4        Defoor, Els Marie Celine
   6 <120> TITLE OF INVENTION: Orotate Transporter Encoding Marker Genes
   8 <130> FILE REFERENCE: 10556.204-US
C--> 10 <140> CURRENT APPLICATION NUMBER: US/10/586,932
C--> 10 <141> CURRENT FILING DATE: 2006-07-21
  10 <160> NUMBER OF SEQ ID NOS: 22
  12 <170> SOFTWARE: PatentIn version 3.3
  14 <210> SEQ ID NO: 1
  15 <211> LENGTH: 921
  16 <212> TYPE: DNA
  17 <213> ORGANISM: Lactococcus lactis
  20 <220> FEATURE:
  21 <221> NAME/KEY: CDS
  22 <222> LOCATION: (1)..(921)
  23 <223> OTHER INFORMATION: Orotate transporter encoding ORF
  25 <400> SEQUENCE: 1
  26 atg tat att tac cta gct ttt gca tta gtt ggc ggt ttt tta ctt gct        48
  27 Met Tyr Ile Tyr Leu Ala Phe Ala Leu Val Gly Gly Phe Leu Leu Ala
  28 1               5                   10                  15
  30 aat caa aat cca atc aat gcg gat tta cga aaa att gtt ggc tca cca        96
  31 Asn Gln Asn Pro Ile Asn Ala Asp Leu Arg Lys Ile Val Gly Ser Pro
  32              20                  25                  30
  34 ttt ttg gcc tct gga att tcc aac ttt gtt ggt tcg att ttt tta gga       144
  35 Phe Leu Ala Ser Gly Ile Ser Asn Phe Val Gly Ser Ile Phe Leu Gly
  36          35                  40                  45
  38 att atc act tta gtg acc agt caa aca ctt ttt cct agt ttt caa ttt       192
  39 Ile Ile Thr Leu Val Thr Ser Gln Thr Leu Phe Pro Ser Phe Gln Phe
  40      50                  55                  60
  42 gtt ggc tca cac cca gta tgg ata tgg att ggt ggg gtt ctt ggt ggg       240
  43 Val Gly Ser His Pro Val Trp Ile Trp Ile Gly Gly Val Leu Gly Gly
  44 65                  70                  75                  80
  46 att ttt cta aca tct aat gtt tta ctt ttc cca aga tta gga gct gtc       288
  47 Ile Phe Leu Thr Ser Asn Val Leu Leu Phe Pro Arg Leu Gly Ala Val
  48              85                  90                  95
  50 caa acg gtg att tta cct att ttg ggt cga ata ttg atg ggg aca ctt       336
  51 Gln Thr Val Ile Leu Pro Ile Leu Gly Arg Ile Leu Met Gly Thr Leu
  52              100                 105                 110
  54 att gat tca ttt ggc tgg ttt cat gcc atg caa ctt ccg atg act ctg       384
  55 Ile Asp Ser Phe Gly Trp Phe His Ala Met Gln Leu Pro Met Thr Leu
  56          115                 120                 125
  58 atg cgc ttt ttg gga gtt atc att act tta gct ggg gtt att gtc gcg       432
  59 Met Arg Phe Leu Gly Val Ile Ile Thr Leu Ala Gly Val Ile Val Ala
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RAW SEQUENCE LISTING   DATE: 08/07/2006
PATENT APPLICATION: US/10/586,932   TIME: 17:03:46

Input Set : A:\01-SQ Listing-21 Jul 2006.txt
Output Set: N:\CRF4\08072006\J586932.raw

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60      130                   135                  140
62 gtt gtt ctt cct aat tta aaa gaa aaa gaa gca gaa acg cac caa act      480
63 Val Val Leu Pro Asn Leu Lys Glu Lys Glu Ala Glu Thr His Gln Thr
64 145                 150                 155                 160
66 aac tta cta ggc tgg cga att tgg gcg gtc atc gtt ggg gca atg tcg      528
67 Asn Leu Leu Gly Trp Arg Ile Trp Ala Val Ile Val Gly Ala Met Ser
68                 165                 170                 175
70 gct gct caa caa gca att aat ggc aga ttg gga gtt tta ctt gaa aac      576
71 Ala Ala Gln Gln Ala Ile Asn Gly Arg Leu Gly Val Leu Leu Glu Asn
72             180                 185                 190
74 act gca caa gca acc ttt gtt tcg ttc ttc att gga ttt tta gct att      624
75 Thr Ala Gln Ala Thr Phe Val Ser Phe Phe Ile Gly Phe Leu Ala Ile
76         195                 200                 205
78 ttt atc gtg tct ctt ttt att gac cgc cgt ttg cca aaa att tca gaa      672
79 Phe Ile Val Ser Leu Phe Ile Asp Arg Arg Leu Pro Lys Ile Ser Glu
80     210                 215                 220
82 tta aaa aaa gca aaa cct tgg aat gga att ggt gga ttt tta gga gcc      720
83 Leu Lys Lys Ala Lys Pro Trp Asn Gly Ile Gly Gly Phe Leu Gly Ala
84 225                 230                 235                 240
86 tca atc gtt ttt gca aca gtc gtt gct gtt ccg caa att ggt gca ggg      768
87 Ser Ile Val Phe Ala Thr Val Val Ala Val Pro Gln Ile Gly Ala Gly
88             245                 250                 255
90 ctg aca att atg atg ggc ttg att gga caa att tta ggc agt atg ttg      816
91 Leu Thr Ile Met Met Gly Leu Ile Gly Gln Ile Leu Gly Ser Met Leu
92             260                 265                 270
94 gtt caa caa ttt ggt tgg tgg cgc tca agt aaa tat ggc att caa att      864
95 Val Gln Gln Phe Gly Trp Trp Arg Ser Ser Lys Tyr Gly Ile Gln Ile
96         275                 280                 285
98 tgg caa att gtt ggg att cta att atg ctg acc gga ata ata ttc att      912
99 Trp Gln Ile Val Gly Ile Leu Ile Met Leu Thr Gly Ile Ile Phe Ile
100     290                 295                 300
102 aaa ttt tta                                                        921
103 Lys Phe Leu
104 305
107 <210> SEQ ID NO: 2
108 <211> LENGTH: 307
109 <212> TYPE: PRT
110 <213> ORGANISM: Lactococcus lactis
112 <400> SEQUENCE: 2
114 Met Tyr Ile Tyr Leu Ala Phe Ala Leu Val Gly Gly Phe Leu Leu Ala
115 1               5                   10                  15
118 Asn Gln Asn Pro Ile Asn Ala Asp Leu Arg Lys Ile Val Gly Ser Pro
119             20                  25                  30
122 Phe Leu Ala Ser Gly Ile Ser Asn Phe Val Gly Ser Ile Phe Leu Gly
123         35                  40                  45
126 Ile Ile Thr Leu Val Thr Ser Gln Thr Leu Phe Pro Ser Phe Gln Phe
127     50                  55                  60
130 Val Gly Ser His Pro Val Trp Ile Trp Ile Gly Gly Val Leu Gly Gly
131 65              70                  75                  80
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RAW SEQUENCE LISTING   DATE: 08/07/2006
PATENT APPLICATION: US/10/586,932   TIME: 17:03:46

Input Set : A:\01-SQ Listing-21 Jul 2006.txt
Output Set: N:\CRF4\08072006\J586932.raw

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134 Ile Phe Leu Thr Ser Asn Val Leu Leu Phe Pro Arg Leu Gly Ala Val
135               85                 90                 95
138 Gln Thr Val Ile Leu Pro Ile Leu Gly Arg Ile Leu Met Gly Thr Leu
139              100                105                110
142 Ile Asp Ser Phe Gly Trp Phe His Ala Met Gln Leu Pro Met Thr Leu
143          115                120                125
146 Met Arg Phe Leu Gly Val Ile Ile Thr Leu Ala Gly Val Ile Val Ala
147      130                135                140
150 Val Val Leu Pro Asn Leu Lys Glu Lys Glu Ala Glu Thr His Gln Thr
151 145              150                155                160
154 Asn Leu Leu Gly Trp Arg Ile Trp Ala Val Ile Val Gly Ala Met Ser
155              165                170                175
158 Ala Ala Gln Gln Ala Ile Asn Gly Arg Leu Gly Val Leu Leu Glu Asn
159          180                185                190
162 Thr Ala Gln Ala Thr Phe Val Ser Phe Phe Ile Gly Phe Leu Ala Ile
163          195                200                205
166 Phe Ile Val Ser Leu Phe Ile Asp Arg Arg Leu Pro Lys Ile Ser Glu
167     210                215                220
170 Leu Lys Lys Ala Lys Pro Trp Asn Gly Ile Gly Gly Phe Leu Gly Ala
171 225              230                235                240
174 Ser Ile Val Phe Ala Thr Val Val Ala Val Pro Gln Ile Gly Ala Gly
175              245                250                255
178 Leu Thr Ile Met Met Gly Leu Ile Gly Gln Ile Leu Gly Ser Met Leu
179          260                265                270
182 Val Gln Gln Phe Gly Trp Trp Arg Ser Ser Lys Tyr Gly Ile Gln Ile
183          275                280                285
186 Trp Gln Ile Val Gly Ile Leu Ile Met Leu Thr Gly Ile Ile Phe Ile
187      290                295                300
190 Lys Phe Leu
191 305
194 <210> SEQ ID NO: 3
195 <211> LENGTH: 25
196 <212> TYPE: DNA
197 <213> ORGANISM: Artificial sequence
199 <220> FEATURE:
200 <223> OTHER INFORMATION: Primer pyrDaBamHI
202 <400> SEQUENCE: 3
203 cgggatccat gaccgcacca acagc                                    25
206 <210> SEQ ID NO: 4
207 <211> LENGTH: 28
208 <212> TYPE: DNA
209 <213> ORGANISM: Artificial sequence
211 <220> FEATURE:
212 <223> OTHER INFORMATION: Primer pyrDaNcoI
214 <400> SEQUENCE: 4
215 catgccatgg ccaaatccat ctttaggc                                 28
218 <210> SEQ ID NO: 5
219 <211> LENGTH: 29
220 <212> TYPE: DNA
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221 <213> ORGANISM: Artificial sequence
223 <220> FEATURE:
224 <223> OTHER INFORMATION: Primer pyrDaHindIII
226 <400> SEQUENCE: 5
227 cgtgaagctt gacaaaatag gctgacctc                                29
230 <210> SEQ ID NO: 6
231 <211> LENGTH: 20
232 <212> TYPE: DNA
233 <213> ORGANISM: Artificial sequence
235 <220> FEATURE:
236 <223> OTHER INFORMATION: Primer PSA17
238 <400> SEQUENCE: 6
239 atgccgcctc atcatttgac                                          20
242 <210> SEQ ID NO: 7
243 <211> LENGTH: 20
244 <212> TYPE: DNA
245 <213> ORGANISM: Artificial sequence
247 <220> FEATURE:
248 <223> OTHER INFORMATION: Primer PSA20
250 <400> SEQUENCE: 7
251 atatcatctc ttttggtaat                                          20
254 <210> SEQ ID NO: 8
255 <211> LENGTH: 28
256 <212> TYPE: DNA
257 <213> ORGANISM: Artificial sequence
259 <220> FEATURE:
260 <223> OTHER INFORMATION: Primer pyrDbIF
262 <400> SEQUENCE: 8
263 cggaagatct gatgatgaca gttgtcag                                 28
266 <210> SEQ ID NO: 9
267 <211> LENGTH: 46
268 <212> TYPE: DNA
269 <213> ORGANISM: Artificial sequence
271 <220> FEATURE:
272 <223> OTHER INFORMATION: Primer pyrDbIR
274 <400> SEQUENCE: 9
275 ctgtactggt ccataagctc ggatccacca aaacaacctg acgctg            46
278 <210> SEQ ID NO: 10
279 <211> LENGTH: 46
280 <212> TYPE: DNA
281 <213> ORGANISM: Artificial sequence
283 <220> FEATURE:
284 <223> OTHER INFORMATION: Primer pyrDbIIF
286 <400> SEQUENCE: 10
287 cagcgtcagg ttgttttggt ggatccgagc ttatggacca gtacag            46
290 <210> SEQ ID NO: 11
291 <211> LENGTH: 28
292 <212> TYPE: DNA
293 <213> ORGANISM: Artificial sequence
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295 <220> FEATURE:
296 <223> OTHER INFORMATION: Primer pyrDbIIR
298 <400> SEQUENCE: 11
299 tcggagatct atccaaggac aagtgcag                                    28
302 <210> SEQ ID NO: 12
303 <211> LENGTH: 17
304 <212> TYPE: DNA
305 <213> ORGANISM: Artificial sequence
307 <220> FEATURE:
308 <223> OTHER INFORMATION: Primer pyrDbseq1
310 <400> SEQUENCE: 12
311 tggtggaatt ggggttc                                                17
314 <210> SEQ ID NO: 13
315 <211> LENGTH: 17
316 <212> TYPE: DNA
317 <213> ORGANISM: Artificial sequence
319 <220> FEATURE:
320 <223> OTHER INFORMATION: Primer pyrDbseq2
322 <400> SEQUENCE: 13
323 caaggtctgc gaagatg                                                17
326 <210> SEQ ID NO: 14
327 <211> LENGTH: 17
328 <212> TYPE: DNA
329 <213> ORGANISM: Artificial sequence
331 <220> FEATURE:
332 <223> OTHER INFORMATION: Primer pyrDbseq3
334 <400> SEQUENCE: 14
335 attgacagaa ctgccag                                                17
338 <210> SEQ ID NO: 15
339 <211> LENGTH: 18
340 <212> TYPE: DNA
341 <213> ORGANISM: Artificial sequence
343 <220> FEATURE:
344 <223> OTHER INFORMATION: Primer DBORO2
346 <400> SEQUENCE: 15
347 acttatcgtc cggacttg                                               18
350 <210> SEQ ID NO: 16
351 <211> LENGTH: 18
352 <212> TYPE: DNA
353 <213> ORGANISM: Artificial sequence
355 <220> FEATURE:
356 <223> OTHER INFORMATION: Primer DBORO8
358 <400> SEQUENCE: 16
359 cattagaaag cgcacgac                                               18
362 <210> SEQ ID NO: 17
363 <211> LENGTH: 26
364 <212> TYPE: DNA
365 <213> ORGANISM: Artificial sequence
367 <220> FEATURE:
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VERIFICATION SUMMARY   DATE: 08/07/2006
PATENT APPLICATION: **US/10/586,932**   TIME: 17:03:47

Input Set : **A:\01-SQ Listing-21 Jul 2006.txt**
Output Set: **N:\CRF4\08072006\J586932.raw**

L:10 M:270 C: Current Application Number differs, Replaced Current Application No
L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date

Raw Sequence Listing before editing
(for reference only)

IFWP

RAW SEQUENCE LISTING   DATE: 08/04/2006
PATENT APPLICATION: US/10/586,932   TIME: 14:23:33

Input Set : A:\01-SQ Listing-21 Jul 2006.txt
Output Set: N:\CRF4\08042006\J586932.raw

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  3 <110> APPLICANT: Martinussen, Jan
  4        Defoor, Els Marie Celine
  6 <120> TITLE OF INVENTION: Orotate Transporter Encoding Marker Genes
  8 <130> FILE REFERENCE: 10556.204-US
C--> 10 <140> CURRENT APPLICATION NUMBER: US/10/586,932
C--> 10 <141> CURRENT FILING DATE: 2006-07-21
  10 <160> NUMBER OF SEQ ID NOS: 22
  12 <170> SOFTWARE: PatentIn version 3.3
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ERRORED SEQUENCES

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423 <211> LENGTH: 17
424 <212> TYPE: DNA
425 <213> ORGANISM: Artificial sequence
427 <220> FEATURE:
428 <223> OTHER INFORMATION: Primer 268neo
430 <400> SEQUENCE: 22
431 ctgattccct gatctcg                                              17
E--> 437 (8)
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VERIFICATION SUMMARY   .   DATE: 08/04/2006
PATENT APPLICATION: US/10/586,932   TIME: 14:23:35

Input Set : **A:\01-SQ Listing-21 Jul 2006.txt**
Output Set: **N:\CRF4\08042006\J586932.raw**   .

L:10 M:270 C: Current Application Number differs, Replaced Current Application No
L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:437 M:254 E: No. of Bases conflict, this line has no nucleotides.